

[Name of Document]    Abstract

[Summary]

[Subject]

In the conventional shrouded rotating wing, if it is of a large caliber and used in a horizontal position, it is difficult for rotatable portions to rotate due to deflection or distortion of rotor blades or due to compression resulting from expansion caused by a centrifugal force and heat, although there occurs no problem in case of the shrouded rotating wing being of a small caliber and used in a vertical position. Moreover, if an attempt is made to remedy expansion and contraction, such as deflection or distortion with use of an electromechanical device, the structure becomes complicated and the weight increases.

[Solution]

In the rotatable duct type shrouded rotating wing according to the present invention, permanent magnets are arranged in the outer periphery portion of a rotatable duct, rotor blades are connected to the inner periphery portion of the rotatable duct, the rotor blades having a rotatable support portion at every about 2.5 m to prevent deflection or distortion, the shroud and the rotatable duct are constantly in contact with each other in the vertical

direction, and an appropriate horizontal space is ensured between the inner periphery portion of the shroud and the outer periphery portion of the rotatable duct to permit expansion and contraction of the rotatable duct and the rotor blades. According to this construction, even if the shrouded rotating wing is of a large caliber and is used in a horizontal position and undergoes a rapid change of direction in a mounted state thereof to a turntable, it can rotate always stably and can generate lift and thrust.

[Selected Drawing]

Fig.1